We claim:

1. A method for making a proton conducting polymeric membrane, comprising

dissolving a polymer in an organic solvent to form a polymer solution;

adding an oxyacid to the polymer solution;

casting the oxyacid-containing polymer solution onto a casting surface; and

removing the organic solvent so as to form a proton conducting polymeric membrane.

2. The method of claim 1 further comprising adding water to the oxyacid-containing polymer solution in a molar ratio equivalent to the oxyacid.

3. The method of claim 1 further comprising concentrating the oxyacid-containing polymer solution prior to casting the oxyacid-containing polymer solution onto the casting surface.

4. The method of claim 1 wherein the polymer is selected from polyphosphazenes, polyalkenes, polyacrylics, polyvinyl ethers, polyvinylhalides, polystyrenes, polyesters, polyurethanes, and polyamides.

5. The method of claim 4 wherein the polymer is a polyphosphazene.

6. The method of claim 1 wherein the organic solvent is tetrahydrofuran.

7. The method of claim 1 wherein the oxyacid is selected from boric, carbonic, cyanic, isocyanic, silicic, nitric, nitrous, phosphoric, phosphorous, hypophosphorous, arsenic, arsenious, antimonic, sulfuric, sulfurous, selenic, selenious, telluric, chromic, dichromic, perchloric, chloric, chlorous, hypochlorous, bromic, bromous, hypobromous, periodic, iodic, hypoiodous, permanganic, manganic, pertechnetic, technetic, perrhennic, rehnnic acids, and their condensation products.

8. The method of claim 1 wherein the oxyacid is phosphorous oxychloride.

9. The method of claim 1 wherein the casting surface is formed of or coated with polytetrafluoroethylene.

10. The method of claim 1 wherein the organic solvent is removed by evaporation.

11. A proton conducting polymeric membrane comprising a mixture of a polyphosphazene and an oxyacid.

12. A proton conducting polymeric membrane made by a method comprising

dissolving a polymer in an organic solvent to form a polymer solution;

adding an oxyacid to the polymer solution;

casting the oxyacid-containing polymer solution onto a casting surface; and

removing the organic solvent so as to form a proton conducting polymeric membrane.

13. A fuel cell comprising a proton conducting polymeric membrane made by a method comprising

dissolving a polymer in an organic solvent to form a polymer solution;

adding an oxyacid to the polymer solution;

casting the oxyacid-containing polymer solution onto a casting surface; and

removing the organic solvent so as to form a proton conducting polymeric membrane.